

Texas Environmental Flows Science Advisory Committee

Wednesday, May 11, 2011

1:00 p.m. – 4:00 p.m.

Texas Parks and Wildlife Department

1340 Airport Commerce Park

Austin, Texas

Minutes

Call to order

Chairman Bob Huston called the meeting to order.

Approval of meeting minutes from March 16, 2011

The minutes from the April 13, 2011 SAC meeting were approved, as amended per discussion.

Liaison Reports (San Antonio, Colorado, Nueces, Sabine, Trinity)

Guadalupe/San Antonio BBEST liaison Dr. George Ward stated that with the submission of the BBEST report, the GSA BBASC is actively pursuing their charge. He reported on the positive interaction between the BBEST and BBASC. He said the BBEST is extending and augmenting the analyses documented in the final report at the request of the BBASC.

Chairman Huston asked that all BBEST Liaisons be available to the BBASCs, if requested. Dr. Ward and SAC member Ed Oborny will attend the GSA BBASC meeting next week. SAC member Bob Brandes noted the extensive scope of work contracted out regarding environmental flow recommendations. He estimated the work should be completed by the BBASC June 3, 2011 meeting.

Dr. Bob Brandes was present during some of the last meeting of the Colorado BBASC. The BBASC decided on a large project in the Lavaca for evaluation and was having difficulty locating one in the Colorado. He added the group is looking at alternative approaches to evaluate impacts.

BBEST Liaison Dr. Paul Montagna said the Nueces BBASC met on Wednesday, April 20, 2011. The BBASC anticipate receiving the BBEST final report after September 1, 2011 and are concerned about the level of support that will be available from the BBEST due to time constraints and lack of funding. He attended the BBEST meeting on April 29, 2011 and reported the hydrology subcommittee was close to finishing the work and analysis phase. The instream subcommittee has a list of fish and potential indicators, and intended to use information from the previous reports. Dr. Montagna reported members discussed at length the current Corpus Christi Bay ecological environment and the opinion of several members that the ecological environment is not sound. He anticipates the final report will include a large section on the recent state of the system and how it has changed with the construction of dams. He expects the BBEST will not have inflow recommendations for Baffin Bay and Laguna Madre since the group feels there are no meaningful natural inflow sources. The BBEST discussed the validity of using models to determine salinity in the bay, and what approach to adopt for the Corpus Christi Bay. The next Nueces BBEST meeting will be held May 20, 2011 with a field tour to coincide with the meeting. The BBEST contracted Trungale and Associates to complete the instream habitat modeling work. A meeting was held Monday, May 9, 2011 with the contractor to verify the scope. Dan Opdyke, TPWD, added

there is preliminary thought that the duration of time of zero flow may influence how flows are managed and could be considered as a hydrologic condition. Dr. Ward asked for copies of the scopes for the two “tasks assigned” issued based on SAC funds (history and fishery analysis) as well as the additional contracted work be distributed to SAC members.

Cory Horan, TCEQ, stated the Upper and Lower BBESTs for the Rio Grande are beginning to move forward. Chairs were elected and both BBESTs are in the process of forming subcommittees. He said the Upper Rio Grande BBEST is looking at Presidio to Lake Amistad including the Devils and Pecos Rivers. Subcommittees were formed based on basins. In the Lower Rio Grande, the BBEST is looking at subcommittees based on discipline and tasks. The Lower BBESTs chose to evaluate the watersheds before deciding on the geographic scope at the next meeting. The Lower Rio Grande BBEST is looking at the North Floodway, Arroyo Colorado, Rio Grande Estuary, and Laguna Madre. Mr. Horan added that the Lower BBEST talked about including in their scope the river up to Lake Amistad, and agreed that anything of substance that is found to contribute to freshwater inflow will be considered for recommendations. Both BBESTs did not feel that an adequate report could be completed by the September 1, 2011 deadline and agreed to continue past the funding deadline. Chairman Huston asked members to encourage the Rio Grande BBESTs to maintain their original decision to focus on specific areas of the basin in which environmental flow recommendations could be meaningful. He also pointed out that the statute specifically recognized the primacy of the Treaty on the Rio Grande River.

SAC member May Kelly summarized Paul Jenson’s comments on the Brazos BBEST. She announced that the BBEST elected a chair and co-chair. The BBEST recognized the time and funding limitations and plan to expedite their efforts. A subgroup was established to determine gage locations and another subgroup to work on aquatic ecology. They decided their responsibilities included San Bernard River, Christmas Bay and Bastrop Bayou systems. Ms. Kelly said the next meeting of the BBEST is Monday, May 23, 2011 in Austin.

Chairman Huston attended the last Brazos BBASC meeting where he presented an overview of the process and described the responsibilities of the SAC, BBEST, and BBASC. He noted the number of members who were new to the SB3 process and added the meeting was mostly organizational. A number of the BBEST members were also present. The BBEST confirmed that they intend to address the estuary.

Budget Update

Ruben Solis, TWDB, gave an update on the budget and remaining funds. Chairman Huston announced there will be an internal budget discussion at the June meeting to see if any additional funds can be redistributed.

Overview of Adopted Rules

Todd Chenoweth, TCEQ, presented an overview of the rulemaking process and the adopted rules. He noted over 2000 comments were received for the last rule package and presented a copy of the adopted rules to the SAC. He discussed the recommendations received from the BBEST and BBASC of the Sabine/Neches and Trinity/San Jacinto, and how these recommendations were utilized by staff. He noted how comments such as those from the Sabine River Authority were considered heavily in revisions to the standards, and the strong concern of environmental groups regarding Galveston Bay encouraged staff to add a seasonal

component to flow values. Mr. Chenoweth mentioned the considerable effort by many groups to remove pulses from the recommendation or provide site specific studies due to a lack of understanding of the science behind pulses. Mr. Chenoweth noted that in future scenarios, environmental flow standards will apply rather than evaluations based on site-specific studies. He added that flow standards would apply throughout their respective basin. He mentioned concern from the public in the Trinity regarding the 12.5% adjustment. He said staff would be working with the Water Rights Advisory Work Group to prepare a guidance document on how the rules would be implemented in future applications. He discussed other concerns voiced from various groups and how these concerns were considered.

This discussion was then deferred until after the next agenda item which was scheduled for 2:00 pm.

Sediment Transport Discussion

Chairman Huston introduced the participants who joined the discussion by teleconference. Copies of their presentations were distributed to all members to use as background material during the discussion. Authors of the presentation gave a brief overview prior to the group discussion.

Fluvial Geomorphology

Mark Wentzel, TWDB, discussed the work done by TWDB with both the Colorado and GSA BBESTs using fluvial geomorphology to show the importance of a geomorphic overlay in instream flow recommendations. He presented examples of projects located throughout the country showing the ecological consequences of changes in sediment transport in river systems and how the loss of flow modifies channel shapes and destroys fish habitat. He explained the measures used to determine channel change; effective discharge and annual average sediment load, which are considered necessary to maintain channel stability. He discussed how fluvial geomorphology, or channel shape, was recognized as important in instream flow assessment, and showed results of a hydraulic modeling effort that demonstrated the importance of channel shape to aquatic habitat.

Dams and Their Impact on Downstream Channels

Dr. Jack Schmidt, Utah State University, discussed dams and their impact on downstream channel changes. He talked about the work done previously on prediction and the metrics of alteration. He discussed the factors that induce degradation and aggradation below the dam. He stated the geomorphic effects of dams are relative to balancing the amount of disturbance in the water system with the amount of disturbance in the sediments. He concluded that to reintroduce mass balance and equilibrium, society has to choose whether to add floods to the river or create miniature rivers which results in transforming the ecological systems.

Geomorphic Change Associated with Dams

Dr. Frank Heitmuller, University of Southern Mississippi, discussed the geomorphic change associated with dams. He outlined the general model for perennial rivers and talked about channel incisions. He mentioned the limiting effect of the bedrock and discussed the tributaries draining to affected main-stems. Dr. Heitmuller presented examples in Kansas and Nebraska before talking about various sites on the Brazos and Sabine Rivers in Texas. He noted the lower Brazos location exhibits channel bed incision due to downstream human impacts such as dredging and channel straightening, while the lower Sabine River showed channel stability. He added the effective discharge should be considered along with the

duration of the flood including not just the magnitude and frequency of the flood but the allotted time to allow sediment transport. He noted that the presence of accumulated flow is not indicative of sediment flow. Sediment is not mobile until the energetic threshold is met.

Mr. Wentzel asked the other participants to provide comments on an instream flow recommendation generated for the Colorado. Members discussed the information presented and its implications with respect to the flow recommendation. It was noted that the geomorphic analysis was done using preliminary HEFR values and not the final values due to the time constraints of the final report. Mr. Wentzel clarified that the analysis was done using bed material load most of which is small enough that it will go into suspension. It was added that the geomorphic overlay can be used with the HEFR values to derive an adjusted flow value and thus a determination of the timing and number of pulses needed to attain the adjusted value. Mr. Bandes noted that to truly know the impact of the flow recommendations on sediment transport, members need to observe the effects of the recommendation over time on an actual project where floods occur greater than the 2 and 5 year events considered in the recommendations. Members discussed the addition of a restriction limiting the acceptable change in annual sediment load to 10% (10 % guideline) to maintain channel stability and how it substantially “trumps” the hydrological and instream ecological analyses. Members discussed using available funds for additional work in this, and suggested more discussion at the June meeting.

Rules Discussion Continued

Kathy Alexander, TCEQ, clarified that the changes made by the Commissioners were to change the base flow levels in the Sabine, Neches and San Jacinto basins by increasing them by 10%. She added that there were no changes to the Galveston Bay inflows. Members discussed how the rules will be applied and if there was latitude in the application. Mr. Chenoweth stated that each application is unique and the goal of staff is to reduce uncertainty and preserve flexibility in applying the rules. He stressed the importance of a consensus recommendation from the stakeholders. He noted that a consensus would weigh strongly with the Commission and reduce the need for additional analyses by staff. Mr. Chenoweth said that the stakeholder recommendations for future basins will be handled the same by staff. Mr. Chenoweth and Ms. Alexander responded to questions from members about the standards, standard development and TCEQ considerations in standard development. Mr. Chenoweth discussed the requested guidance document on how the Commission proposes to apply the adopted rules to a specific permit. He hoped that it will be possible to receive early input from the stake holders before the internal TCEQ approval process.

Other Discussion Items

Chairman Huston said the recently completed SAC reviews of BBEST reports have been distributed to the respective stakeholder groups.

Public Comments

Ruben Solis commented on the geomorphology discussion and the importance of the relationship between channel stability and maintenance of habitat. Chairman Huston proposed a future discussion on an assessment of the impact of water development projects on stream ecology.

Next Meeting – Schedule (June 8th - TWDB) and Agenda

The next SAC meeting is scheduled for Wednesday, June 8, 2011 and will be held at TCEQ, in Austin.

Agenda items will include:

- Work Plan Review
- Sediment Scoping
- Funding/Budget Discussion/Update

Adjourn